AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. The marked changes indicate changes made to the claim text as presented in Applicants' Amendment of November 24, 2010.

Listing of Claims:

1. (currently amended) A real-time monitoring apparatus for biochemical reaction, comprising:

a temperature control block comprising a thermoelectric element capable of supplying heat into reaction tubes and a heat transmission block which transmits the heat to the reaction tubes;

a light irradiation source comprising:

a lamp for irradiating to a sample contained in at least one of the reaction tubes,

at least one reflective mirror,

an optical waveguide which has an open structure with said reflective mirror, said optical waveguide having a configuration that alters light path passing through at least one end of the optical waveguide and provides a uniform intensity of light,

an infra-red cutting filter filtering light transmitted through a light path that comprises said infra-red cutting filter, said reflective mirror and the optical waveguide and said infra-red cutting filter cutting infra-red from the lamp and a selective transmission filter for transmitting light selectively to monitor a reaction progress,

said light illuminating the sample with a uniform light intensity distribution as provided by the uniform intensity of light from the optical waveguide, and

a condensing lens positioned outside of a portion of a light path comprising said reflective mirror, the optical waveguide and the infra-red cutting filter; and

an optical system comprising a receiving part for receiving fluorescence transmitted through ~~the condensing lens~~ a second focusing lens, the fluorescence irradiated from the sample by the light emitted from the light irradiation source as transmitted through a light path comprising the optical waveguide, the selective transmission filter and ~~the condensing lens~~ a first focusing lens.

2. (currently amended) The real-time monitoring apparatus according to claim 1, wherein the lamp includes ~~a first~~ an ellipsoidal reflecting mirror or a parabolic mirror.

3. (original) The real-time monitoring apparatus according to claim 1, wherein the refractive
index of medium of the optical waveguide is 1.35~2.0.

4. (original) The real-time monitoring apparatus according to claim 1, wherein the optical waveguide has a rectangular shape.

5. (previously presented) The real-time monitoring apparatus according to claim 1, wherein the cross-section of the optical waveguide has a round shape.

6-11. (canceled)

12. (previously presented) The real-time monitoring apparatus according to claim 1, further comprising two or more reflective mirrors positioned to alter light path after transmission from the light irradiation source.

13-16. (canceled)

17. (currently amended) The real-time monitoring apparatus according to claim 2, wherein the lamp including ~~an ellipsoidal reflecting mirror~~ a parabolic mirror further comprises [[a]] the first focusing lens.

18. (canceled).